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TITLE: EXPECTED LIFE CYCLE COST EVALUATION SYSTEM OF BUILDING AND RECORDING MEDIUM  
IN WHICH EXPECTED LIFE CYCLE COST EVALUATION PROGRAM IS RECORDED

PUBN-DATE: October 17, 2003

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APPL-NO: JP2002093801

APPL-DATE: March 29, 2002

INT-CL (IPC): G06 F 17/50

## ABSTRACT:

PROBLEM TO BE SOLVED: To evaluate an expected life cycle cost of a building by response analysis of the building using a plurality of simulatively generated earthquake waves.

SOLUTION: Occurrence probabilities of earthquakes with the respective magnitude are calculated on the basis of storage information in an earthquake environmental information database 12, the earthquake waves are simulatively generated, outputted on the basis of information about fault parameters and underground structure and subsurface layer information, the response analysis of the building by the earthquake waves is performed on the basis of structural design information of a building at a specified point, a damage cost of the building is calculated on the basis of response analysis results, an expected damage cost is calculated by performing simulation by a Monte Carlo method in consideration of uncertainty retarding the analysis and arithmetic operations, risks are calculated on the basis of the expected damage cost and the occurrence probabilities of earthquakes and the expected life cycle cost of the building by every number of years of use is calculated on the basis of the initial cost and the risks.

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